
Effects of psychotherapy for depression in children and adolescents: a meta-analysis

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CRD summary

This review assessed the effects of psychotherapy for depression in children and adolescents. The authors concluded that youth depression treatments yielded modest but significant effects that were durable during the initial period following treatment but less so for longer periods. The review had some methodological and reporting shortcomings but the suitably cautious conclusion is probably reliable.

Authors' objectives

To assess the effects of psychotherapy for youth depression treatment.

Searching

PsycINFO, MEDLINE and Dissertation Abstracts International were searched to 2004. Search terms were reported. The reference lists of review articles and outcome studies were searched. Handsearching was undertaken of those journals in which at least five psychotherapy studies had been identified. Authors of relevant studies were also contacted. Non peer reviewed material was eligible.

Study selection

Eligible studies included patients with elevated levels of depressive symptoms, formal diagnosis of depressive disorder or dysthymic disorder, or research diagnostic criteria diagnoses of minor or intermittent depression, and to have an intervention that targeted the depressive symptoms or disorder. Included studies assessed psychotherapy interventions designed to alleviate depressive disorders or elevated levels of depressive symptomatology through structured or unstructured interaction or a training programme. Participants had to be randomly assigned to at least one treatment and one non-treatment group, and to have a mean sample age of less than 19 years. Single-subject study designs were excluded.

Included studies covered age groups from seven to 19 years of age. Participants aged under 13 years were classed as children and those 13 years or over as adolescents. Studies that included both children and adolescents were excluded from age group analyses.

Study outcomes included overall and depression effect size, attrition and various non-depression measures (for example: negative cognitions, functional impairment, self-worth, anxiety, suicidality).

The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality

The authors did not state that they assessed validity.

Data extraction

Effect size estimates were calculated independently. Different scales from the same measure, where reported, were averaged for overall effect size, but depression-specific scales were used in calculating depression effect size. Effect size values were adjusted using Hedge's small sample correction. Inter-reviewer agreement was assessed using intra-class correlation coefficients and the κ statistic.

Two reviewers performed the data extraction. Any inconsistencies were resolved jointly.

Methods of synthesis

Summary estimates for the primary outcomes were reported as effect size using both weighted least squares and unweighted least squares. Meta analysis was conducted to obtain pooled effect sizes, using maximum likelihood, random-effects models, weighted by inverse variance. Hedges' test for homogeneity was used. Paired t-tests were used

to compare outcomes on different measures for the same set of studies (for example, outcomes based on parent versus youth reports). Statistical heterogeneity was assessed using the Q-statistic. Subgroup analyses were compared for differences between two groups of studies and any of the variables found to differentiate the two groups were included as covariates in the meta-regression analysis. Analyses were restricted to those studies with acceptable power following Cohen's (1988) methods with 0.80 as the cut-off for a large effect for t tests, and 0.40 for F tests, with Z tests and Q statistics based on the same procedures.

Results of the review

The review included 35 studies (n=2,095 participants, range nine to 439).

The mean weighted least square effect size for depression measures (35 studies) was 0.34 (standard deviation 0.40; $p < 0.01$) and the mean unweighted least square effect size for depression measures (35 studies) was 0.40 ($p < 0.01$).

Investigating the maintenance of treatment gains over life revealed a significant negative correlation ($p = 0.03$) between follow-up time lag and follow-up effect size, with follow-up assessments near the end of treatment exhibiting relatively large effects (for example, two to three months), whereas follow-ups with lags of one year or more did not demonstrate treatment effect. There were significantly higher effect size values for the non-depression outcome studies ($p = 0.01$) when controlling for factors that might influence effect size and type of control group.

Comparing psychotherapy with passive control groups (20 studies) yielded a mean psychotherapy effect size of 0.41 ($p < 0.01$), whereas comparison with active control groups (15 studies) produced a mean effect size of 0.24 ($p = 0.03$). Studies that used active control groups included clinically referred youths more often than studies that used passive control groups ($p = 0.002$).

The 31 treatments that emphasise changing cognitions were compared with the 13 that did not, with a mean effect size for cognitive treatments 0.35 ($p < 0.01$) and a mean effect size for non-cognitive treatments 0.47 ($p < 0.01$); the effect size difference between the two was not significant. The mean effect size for studies that used primarily recruited participants (n=29 participants) was 0.34 ($p < 0.01$) and that for studies that used clinically referred participants (n=six participants) was 0.32 ($p < 0.05$).

Authors' conclusions

Youth depression treatments yielded modest but significant effects. These effects appeared to be durable during the initial period following treatment but less so for longer periods.

CRD commentary

The review addressed a clear question, supported by clear inclusion criteria. The search strategy was adequate and included searching for material outside of the main search engines. The authors did not state how the papers were selected for the review, or how many reviewers performed the selection, which may mean that the selection process was subject to bias. Also, no formal assessment of the validity of the included studies was undertaken. Data extraction was performed by two reviewers and any inconsistencies were resolved jointly. The decision to employ meta-analysis appeared to be appropriate and suitable sub-group analyses were undertaken. The authors' conclusions were suitably cautious given the weaknesses in the data.

Implications of the review for practice and research

Practice: The authors did not state implications for practice.

Research: The authors stated that there is a requirement for increased use of active control conditions, meaningful follow-up assessment, intention to treat analysis, moderator assessment and tests of proposed mechanisms of change.

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Other publications of related interest

McCarty CA, Weisz JR. Effects of psychotherapy for depression in children and adolescents: What we can (and can't) learn from meta-analysis and component profiling. *J Am Acad Child Adolesc Psychiatry* 2007;46:879-86

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.